ILLEGIBLE

BELYAYEV, I.N.

Conductivity of the diagonal cross-section of fused ternary reciprocal systems. I. N. Belyaev, A. G. Bergman, and L. I. Nomikos (State Univ. Rostov-on-Don). *Doklady Akad. Nauk S.S.S.R.* 91, 1103–5(1953).—Sp. cond. of the stable system Ag_2Cl_2–Tl_2SO_4 and the unstable system Tl_2Cl_2–Ag_2SO_4 in the liquid phase in the system Tl, Ag||Cl,SO_4 and the unstable section Tl_2Br_2–Ag_2SO_4 in the system Tl, Ag||Br,SO_4 were measured by a previously described method (*C.A.* 47, 2926d). Isothermal curves of the cond. for the stable section Ag_2Cl_2–Tl_2SO_4 drop from the more conducting Ag_2Cl_2 to the less conducting Tl_2SO_4. These isotherms are similar to the isotherms of the sp. cond. for the common systems with the eutectic point on the liquidus curves. The isotherms for the unstable section have sharp min. corresponding to the formation of Tl_2SO_4 and Ag_2SO_4.Tl_2SO_4. The min. cond. which corresponds to the formation of Tl_2SO_4 is less than the min. cond. of Ag_2SO_4.Tl_2SO_4. In the fused state of the three-component systems the equilibrium is displaced to the stable pair of salts or to the less dissocd. components similar to ideal binary systems. In the mixt. of fused salts in which exchange reaction or complex formation take place the components are incompletely dissocd. M. C.

BELYAYEV, I.N.

chem

✓ Effect of barium titanate on the dielectric properties of metaphosphate and metaborate lead [illegible] I. N. Belyaev, A. L. Khodakov, and M. L. Smolokhovich (Kostov State Univ.). *Zhur. Fiz. Khim.* 27, 1157-82(1953).—$Pb(PO_3)_2$ m. 616° and gives a eutectic with $BaTiO_3$ at 613° and 1 mole % $BaTiO_3$; there is little formation of $PbTiO_3$ and $Ba(PO_3)_2$ in the melt. $Pb(BO_2)_2$ m. 686°; eutectic with $BaTiO_3$ at 623° and 4% $BaTiO_3$; $BaTiO_3$ in the melt is almost completely transformed into $PbTiO_3$. Accordingly, the dielec. const. ϵ of $Pb(PO_3)_2$ is raised from 15.6 to 23.4 by 5% $BaTiO_3$, while 25% $BaTiO_3$ raise ϵ of $Pb(BO_2)_2$ from 17.7 to 22.2 only. The ϵ of window glass is raised from 4.8 to 5.75 by 3 wt. % $BaTiO_3$. The temp. coeff. of ϵ (i.e., $\Delta\epsilon/\epsilon_t \Delta t$) is $5.1\text{-}5.3 \times 10^{-4}$ for $Pb(PO_3)_2$ and its mixts. with $BaTiO_3$, 2.8×10^{-4} for $Pb(BO_2)_2$, and 0.6×10^{-4} for $Pb(BO_2)_2$ + 25% $BaTiO_3$. The loss angle δ is small (tan δ = 0.005) and independent of temp. between 30° and 150° for $Pb(BO_2)_2$, while tan δ of window glass increases from 0.05 at 30° to 0.1 at 150°. The elec. cond. κ of $Pb(PO_3)_2$ and $Pb(BO_2)_2$ is raised by $BaTiO_3$. The apparent energy of activation calcd. from κ is 38, 49, and 64 kcal./mole for $Pb(PO_3)_2$, $Pb(PO_3)_2$ + 5% $BaTiO_3$, $Pb(BO_2)_2$, and $Pb(BO_2)_2$ + 15% $BaTiO_3$, resp. J. J. Bikerman

Chim abs v48
1-25-54
glass, Clay Products

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7-19-54

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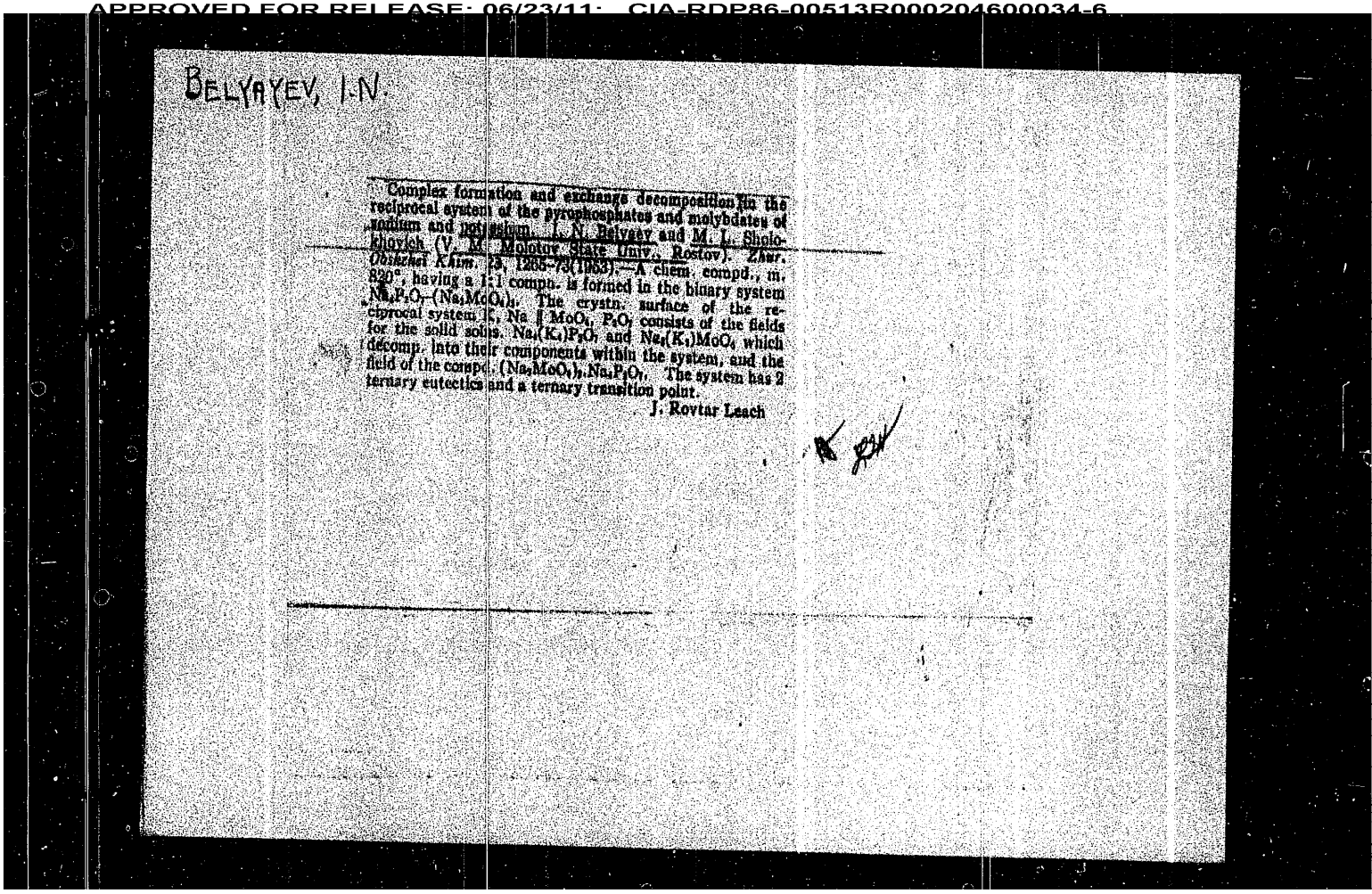

BELYAYEV, I.N.

Complex formation and exchange decomposition in the reciprocal system of the pyrophosphates and molybdates of sodium and potassium. I. N. Belyaev and M. L. Sholokhovich (V. M. Molotov State Univ., Rostov). *Zhur. Obshchei Khim.* 23, 1265–73(1953).—A chem. compd., m. 820°, having a 1:1 compn. is formed in the binary system $Na_4P_2O_7$–$(Na_2MoO_4)_2$. The crystn. surface of the reciprocal system K, Na ‖ MoO_4, P_2O_7 consists of the fields for the solid solns. $Na_4(K_4)P_2O_7$ and $Na_2(K_2)MoO_4$ which decomp. into their components within the system, and the field of the compd. $(Na_2MoO_4)_2Na_4P_2O_7$. The system has 2 ternary eutectics and a ternary transition point.

J. Rovtar Leach

ILLEGIBLE

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BELYAEV, I.N.; NESTEROVA, A.K.

The diagonal-adiagonal transition-type irreversibly reciprocal ternary system of potassium and lead sulfates and tungstates. Doklady Akad. Nauk S.S.S.R. 86, 949-52 '52. (MLRA 5:11)
(CA 47 no.13:6237 '53)

1. Gosudarstvennyy universitet imeni V.M. Molotova, Rostov/on Don.

USSR/Physics - Crystals, Temperature 11 Apr 52
Variations

"Temperature Variations in Single $BaTiO_3$ Crystals," I. N. Belyayev, N. S. Novosil'tsev, Ye. G. Fesenko, A. L. Khodakov, Phys-Math Inst, Rostov-on-Don State U imeni Molotov

"Dok Ak Nauk SSSR" Vol LXXXIII, No 5, pp 675, 676

In a previous work (ibid. Vol LXXVIII, 875, 1951), described certain varieties of $BaTiO_3$ monocrystals possessing cubic and rhombohedric symmetry at room temps. In current article, investigates 3 sets of $BaTiO_3$ monocrystals: 2 (I and II) grown from a

218T81

USSR/Physics - Crystals, Temperature 11 Apr 52
Variations (Contd)

soln, and one (III) obtained during exchange reaction. States that chem and spectral analysis indicate insignificant amt of admixts in the crystals so that it is difficult to explain displacement in Curie point by the presence of impurities. Submitted by Acad D. V. Skobel'tsyn 16 Feb 52.

218T81

BELYAYEV, I. N.

USSR/Chemistry, Piezoelectrics - Barium Titanate Aug 52

"The Fusibility of the System $BaCl_2$- $BaCO_3$-$BaTiO_3$," I. N. Belyayev, M. L. Sholokhovich

"Zhur Prik Khim" Vol 25, No 8, pp 818-825

PA 228T6

Established, through a visual-polythermal investigation of the fusibility of the triple system, $BaCl_2$-$BaCO_3$-$BaTiO_3$, that in the explored thermal interval the area of the liquidus corresponds to the crystn of 5 different phases: α $BaCl_2$, occupying 0.1% of the area of the system; β $BaCl_2$, occupying 1.48% of the area of the system; of the areas of crystn α and β modifications of $BaCO_3$ and $BaTiO_3$. The fields of crystn of β $BaCl_2$, β $BaCO_3$ and $BaTiO_3$ converge in a triple eutectic point of the system, corresponding to 79.50% of β $BaCl_2$, 9.25% of $BaTiO_3$, and 11.25% of β $BaCO_3$.

228T6

BELYAYEV, I. N.

BELYAYEV, I.N.; SHOLOKHOVICH, M.I.

Fusibility of the system K_2CO_3-Na_2CO_3-$BaTiO_3$. J. appl. Chem. USSR '52, 25, 657-662. (MLRA 5:7)
(BA-AI Je'53:507)

ILLEGIBLE

BELYAYEV, I. N.

4

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
General and Physical Chemistry

(2) ch.

Physicochemical analysis of systems of mercuric halides and alkali metal or ammonium halides. III. Electric conductivity of systems of fused mercuric halide and ammonium halide. M. N. Belyaev and K. B. Mironov. *J. Gen. Chem.* (U.S.S.R.) 22, 1775-81(1952)(Engl. translation).—See *C.A.* 47, 2026*i*. H. L. H.

BELIAEV, I. N.

"Double decomposition in a reciprocal system consisting of sulfates and tungstates of sodium and lead." (p. 1746)

SO: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1952, Vol. 22, No.10

USSR/Chemistry - Solid Solutions, Mercury Compounds — Sep 52

"Physicochemical Analysis of Systems Consisting of Mercury Halides and Alkali Metals and Ammonium Halides. II. Fusibility of Bromide and Iodide Systems," I. N. Belyayev, K. Ye. Mironov, Chair of Gen Chem, Rostov-on-Don State U imeni V. M. Molotov

"Zhur Obshch Khim" Vol 22, No 9, pp 1490-1497

232T16

The systems $HgBr_2$-NaBr, HgI_2-NaI, HgI_2-KI, and HgI_2-NH_4I were studied using a visual-polythermal method. The systems $HgBr_2$ - KBr, and $HgBr_2$ - NH_4Br were studied with the aid of both visual-polythermal and thermal methods, whereupon heating and cooling curves were plotted. In the system $HgBr_2$ - NaBr, 2 compds are formed whose compn is not known. In the system $HgBr_2$ - KBr, 4 compds are formed: $KBr \cdot 7HgBr_2$, $KBr \cdot 2HgBr_2$, $KBr \cdot HgBr_2$, $2KBr \cdot HgBr_2$. In the system $HgBr_2$ - NH_4Br, 5 compds are formed: $NH_4Br \cdot 7HgBr_2$?, $2NH_4 \cdot 9HgBr_2$, $2NH_4Br \cdot 3HgBr_2$, $2NH_4Br \cdot HgBr_2$, $4NH_4Br \cdot HgBr_2$. In the system HgI_2 - NaI, one compd is formed of the probable compn $NaI \cdot HgI_2$. In the system HgI_2 - NH_4I, 2 compds are formed: $2NH_4I \cdot HgI_2$ and $4NH_4I \cdot HgI_2$. The ability to form complexes and their stability increases in the order I - Br - Cl. In chloride and bromide systems the ability to form complexes increases sharply with increasing ionic radius of alkali metal, but not for iodine systems.

I. N. BELYAYEV

(3)

232T16

BELYAYEV, I. N.

232T15

USSR/Chemistry - Solid Solutions, Sep 52
Mercury Compounds

"Physicochemical Analysis of Systems Consisting of Mercury Halides and Alkali Metals and Ammonium Halides. I. Fusibility of the Systems $HgCl_2$ - MeCl," I. N. Belyayev, K. Ye. Mironov, Rostov-on-Don State U imeni V. M. Molotov

"Zhur Obshch Khim" Vol 22, No 9, pp 1484-1489

The following systems were studied using the fusion method: $HgCl_2$ - LiCl, $HgCl_2$ - NaCl, $HgCl_2$-KCl, and $HgCl_2$ - NH_4Cl. Alkali metal chlorides

232T15

form complexes with increasing facility in the order Li→ Na→ K→ NH_4. The system $HgCl_2$ - LiCl is of the same type as alk earth chlorides - mercuric chloride. A relationship was established connecting deviations of mol wts obtained cryoscopically from true mol wts with ionic radii of alkali metals with a 1:1 combination in the system NH_4Cl - $HgCl_2$, 3 polymorphic transformations were found to take place in the temp range 203-213°.

232T15

BELYAYEV, I. N.

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
General and Physical Chemistry

Equilibrium in the reciprocal system of sulfates and molybdates of sodium and lead. I. N. Belyaev (Kalinin State Univ.). *J. Gen. Chem. U.S.S.R.* 22, 1303-7(1952) (Engl. translation); *Zhur. Obshchei Khim.* 22, 1319-24 (1952).—The quaternary reciprocal system of the sulfates and molybdates of Na and Pb was investigated by the visual polythermal method. According to the classification of Bergman and Dombrovskaya (cf. *C.A.* 24, 2360) the system is of the irreversible-reciprocal type with the stable diagonal Na_2SO_4-$PbMoO_4$.
Bernard Rubin

USSR/Chemistry - Lead, Titanium, and Vanadium Compounds Mar 52

"Fusibility of Ternary System Lead Oxide - Vanadium Pentoxide - Titanium Dioxide," I. N. Belyayev, A. K. Nesterova, Lab of Chem Phys, Rostov State U

"Zhur Obshch Khim" Vol XXII, No 3, pp 396-403

Diagram of fusibility shows the fields of crystn of PbO, Pb_2TiO_4, 8 $PbO \cdot V_2O_5$, 3 $PbO \cdot V_2O_5$, of a compd with the general formula 10 $PbO \cdot V_2O_5 \cdot TiO_2$ which was obtained for the 1st time, TiO_2, and regions of glass formation. Two incongruently melting compds (2 $PbO \cdot TiO_2$ and $PbO \cdot TiO_2$) are formed in

209T38

USSR/Chemistry - Lead, Titanium, and Vanadium Compounds (Contd) Mar 52

the system $PbO-TiO_2$. Stability of the metatitanate increases in presence of V_2O_5. The regions of the concns of the components recommended for obtaining large crystals of lead metatitanate and titanium dioxide are indicated.

209T38

BELYAYEV, I. N.

1a.
Section A

Dielectrics

537.226.2

8150. **Dielectric properties of lead titanate monocrystals.** I. N. BELYAEV AND A. L. KHODAKOV. Letter in *Zh. Eksper. Teor. Fiz.*, 23, 376–8 (*No.* 3, 1952) *In Russian.*

Relationship of conduct...ty and temperature of $PbTiO_3$ monocrystals is same as in semiconductors. Energy of activation is 1·06 eV. High conductivity determines relation of losses and frequency. With increase of frequency tan δ falls and only at very high frequencies begins to rise. On heating, losses quickly increase. Although due to high conductivity of crystals it was not possible to investigate temperature relationship of permittivity at and above Curie point yet considerable increase of permittivity with temperature, slow change of permittivity with frequency, also temperature relationship of conductivity classify crystals of $PbTiO_3$ as ferro-electric.

J. LUKASIEWICZ

BELYAYEV, I. N.

184T105

USSR/Physics - Crystallography 11 Jun 51

"New Varieties of Monocrystalline Barium Titanate," I. N. Belyayev, N. S. Novosiltsev, A. L. Khodakov, E. G. Fesenko

"Dok Ak Nauk SSSR" Vol LXXVIII No 5, pp 875-877

Obtained 3 new types of monocryst barium titanate in the lab from fused $BaCl_2$ + $BaCO_3$ + TiO_2 within temp range of 1,200-750°. Dielec properties varied depending on methods of growing. Submitted by Acad G. S. Landsberg 4 Apr 51.

184T105

BELYAYEV, I.N.

Chemical Abst.
Vol. 48 No. 4
Feb. 25, 1954
General and Physical Chemistry

Fusibility of the systems Na_2CO_3–K_2CO_3–$BaTiO_3$ and $BaCO_3$–$BaCl_2$–$BaTiO_3$. L. N. Belyaev and M. L. Sholokhovich (V. M. Molotov State Univ., Rostov). *Doklady Akad. Nauk S.S.S.R.* 77, 51–2(1951); cf. *C.A.* 47, 9128e.—The systems were investigated at temps. up to 1200°. The system Na_2CO_3–K_2CO_3–$BaTiO_3$ is a stable section through the more complex system Na, Ba, K||CO_3, TiO_3. There are 2 regions of crystn.: a small region, 1.27% of the total area, where solid solns. of Na_2CO_3 and K_2CO_3 crystallize out; and the remainder where $BaTiO_3$ is the stable phase. The boundary between the 2 regions extends from 826° and approx. 1% $BaTiO_3$-99% Na_2CO_3, down to an invariant min. of 700° at 60% Na_2CO_3-40% K_2CO_3; and up to 873° at approx. 2% $BaTiO_3$-98% K_2CO_3. In the system $BaCl_2$–$BaCO_3$–$BaTiO_3$ there are 5 regions of crystn. where the stable forms are, resp., α-$BaCl_2$ (1.481% of the total area), β-$BaCl_2$ (1.01% of area), α- and β-$BaCO_3$, and $BaTiO_3$ (areas for latter 3 phases not detd.). A ternary eutectic m. 811° contains 11.25% $BaCO_3$, 9.25% $BaTiO_3$, and 79.50% $BaCl_2$.

Arild J. Miller

7-28-54

OA

2

Dielectric properties of different grades of titanium dioxide. I. N. Belyaev, N. S. Novosil'tsev, A. L. Khodakov, and M. S. Shul'man. *Zhur. Tekh. Fiz.* 21, 647-51(1951).—Samples of TiO_2 of different degrees of purity differ greatly in the rate of decrease of the dielec. const. ϵ with increasing frequency (between 10 and 10^8 hertzes) particularly in the range of lower frequencies, but tend to merge at high frequencies (ϵ = 90–100). The frequency dependence was most pronounced in a sample of "titanic acid" (TiO_2 90.47, CaO 0.53, MgO 0.01, Fe_2O_3 0.006, SiO_2 0.00%) sintered at 1350°, whereas a sample (99.09, 0.60, 0.03, 0.04, 0.24), sintered at the same temp., showed almost no dispersion of ϵ, even less than spectroscopically pure TiO_2; for the latter, at 50 hertzes, ϵ = 140, contrary to previously asserted $\epsilon \sim 850$. Dielec. losses (tan δ) fall sharply with increasing frequency. The temp. coeff. of ϵ is mostly slightly neg. With increasing temp., the low-frequency divergences between different samples increase. At the liquid-air temp. the differences of ϵ in the low-frequency range tend to diminish. Curves of tan δ as a function of the temp. show characteristic relaxation maxima.

N. Thon

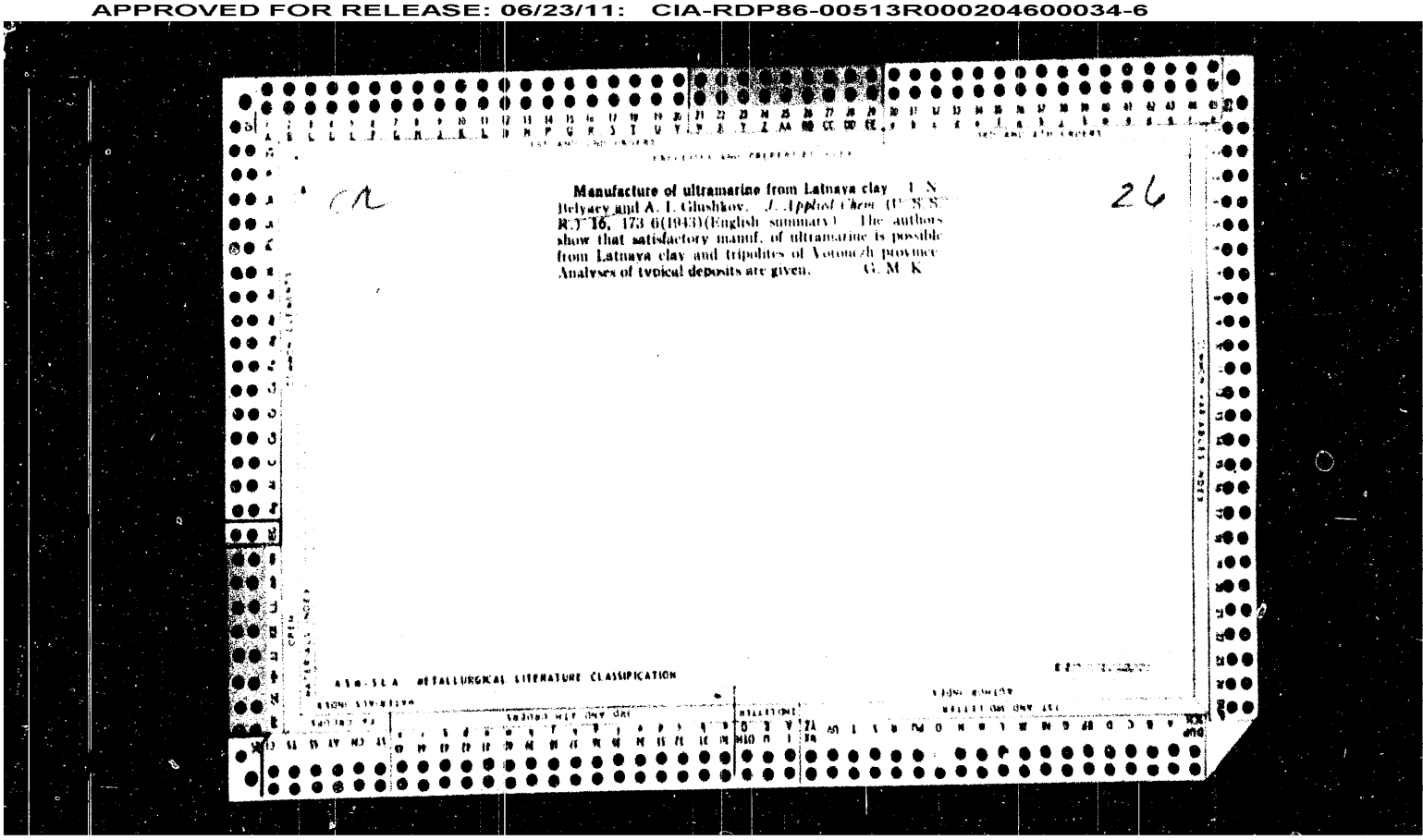
CA

Electrical conductivity of fused systems of halides of mercury and ammonium. I. N. Belyaev and K. K. Miromov (V. M. Molotov State Univ., Rostov on Don). *Doklady Akad. Nauk S.S.S.R.* **73**, 1217-20(1950).—The systems $HgCl_2$-NH_4Cl, $HgBr_2$-NH_4Br, and HgI_2-NH_4I were studied by detg. elec. cond. and m.p. over concn. ranges from 0 to 73–75 mole % NH_4 halide (at higher concns. the melts froth excessively). Compd. formation, which in m.p. curves is assocd. with a max. or with a transition point for incongruently melting compds., is evident also by a min. in elec. cond. *vs.* concn. curves and also in curves of temp. coeff. of elec. cond. *vs.* concn. Thus, in the system $HgCl_2$-NH_4Cl, the m.p.-concn. curve shows the compd. $HgCl_2$·NH_4Cl melting congruently at 218°, with adjacent eutectics at 198°, 38.5 mole % NH_4Cl, and 193°, 61 mole % NH_4Cl; and there are 4 incongruently melting compds. with the following values for ratio of $HgCl_2$ to NH_4Cl, mole percent NH_4Cl on liquidus curve, and temp., resp.: 9:2, 18.5, 243; 3:1, 25.5, 235; 2:1, 33.5, 214; and 1:2, 66.6, 243. The temp. coeff. of elec. cond. was detd. by measuring cond. at 230° and 300°. The system $HgBr_2$-NH_4Br was studied similarly, with cond. measurements at 200, 250, 300, and 350°. The liquidus curve shows a eutectic at 140°, 48 mole % NH_4Br, and 4 incongruently melting compds., with the following values for ratio of $HgBr_2$ to NH_4Br, mole % NH_4Br on liquidus curve, and temp., resp.: 3:1, 25, 222; 3:2, 40, 155; 1:2, 60, 201; and 1:4, 67, 206. In the system HgI_2-NH_4I, elec. cond. was again detd. at temps. of 200, 250, 300, and 350°. This system shows a eutectic at 113°, 46 mole % NH_4I; a transition point at 120°, 42 mole % NH_4I, involving a polymorphic transformation of HgI_2; and two transition points, corresponding to the compds. HgI_2·$2NH_4I$, 50 mole % NH_4I, 210°; and HgI_2·$4NH_4I$, 63 mole % NH_4I, 234°. The max. and min. in the elec. cond. and temp.-coeff. curves are very sharp in the system $HgCl_2$-NH_4Cl, and become progressively less pronounced in the series Cl-Br-I.

Arild J. Miller

BELYAYEV, I.N.

Rutile-base ceramic products. Patent U.S.S.R. 77,972, Dec.31, 1949.
(CA 47 no.19:10194 '53)



Manufacture of ultramarine from Latnaya clay. I. N. Belyaev and A. I. Glushkov. *J. Applied Chem.* (U.S.S.R.) **16**, 173-6(1943)(English summary). The authors show that satisfactory manuf. of ultramarine is possible from Latnaya clay and tripolites of Voronezh province. Analyses of typical deposits are given. G. M. K.

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ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

BELYAEV, I.N.

BC

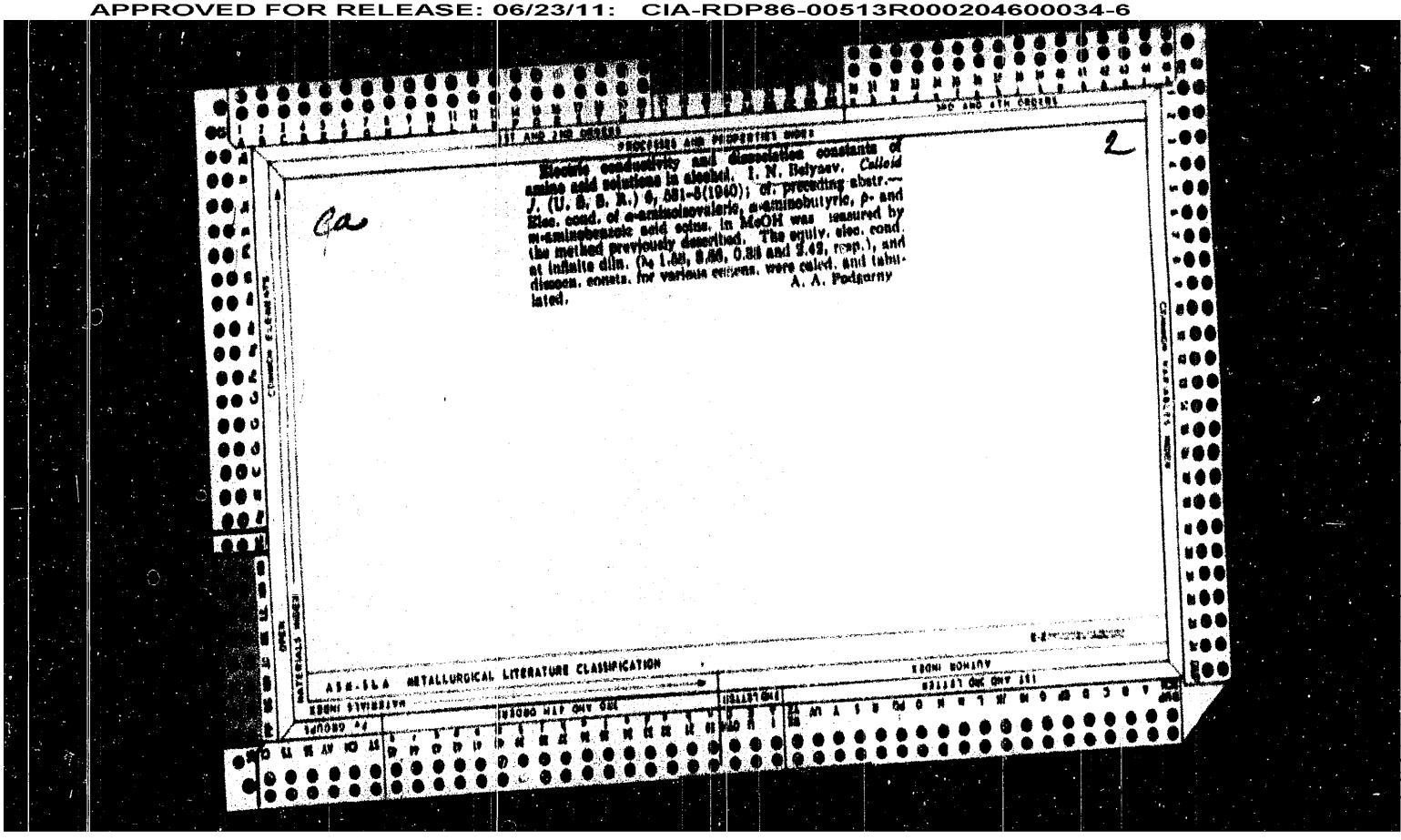
1ST AND 2ND ORDERS

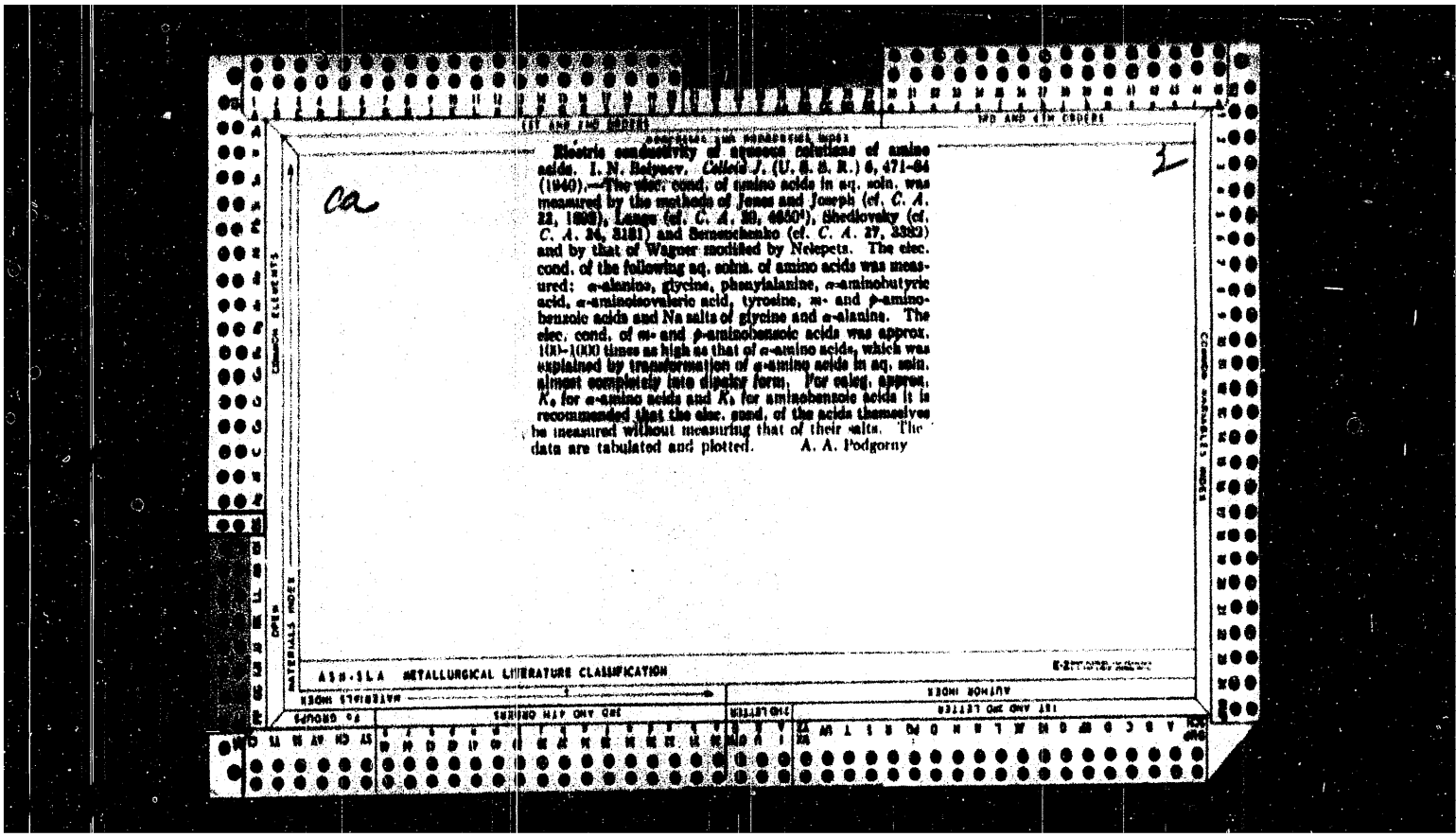
PROCESSES AND PROPERTIES INDEX

Temperature coefficient of the electric conductivity of solutions of m- and p-aminobenzoic acids. I. N. Beljaev (Kolloid. Zhurn., 1940, 6, 729–733).—For 0·005N-m-$NH_2 \cdot C_6H_4 \cdot CO_2H$ $\kappa \times 10^4$ is 74 and 225 at 10·3° and 96·0°, for 0·010N. it is 74 and 326 at 10·0 and 95·5°, and for 0·015N, it is 61 92 and 409 at 9·0° and 90·4°. For the p-acid it is: 0·005N, 69 and 207 at 9·0° and and 163 at 13·1° and 97·5°; 0·010N, 90 and 246 at 12·0° and 96·0°. κ rises with 91·5°; 0·015N, temp. linearly up to ~60°. The smaller temp. coeff. of the p-acid is probably due to its containing more of the dipolar form than does the m-acid.

J. J. B.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION





Electric conductivity of aqueous solutions of amino acids. I. N. Belgaev. *Colloid J.* (U. S. S. R.) 6, 471–84 (1940).—The elec. cond. of amino acids in aq. soln. was measured by the methods of Jones and Joseph (*cf. C. A.* 22, 1808), Lange (*cf. C. A.* 30, 4650[1]), Sheralovsky (*cf. C. A.* 34, 3181) and Semenchenko (*cf. C. A.* 37, 2382) and by that of Wagner modified by Nelepets. The elec. cond. of the following aq. solns. of amino acids was measured: α-alanine, glycine, phenylalanine, α-aminobutyric acid, α-aminoisovaleric acid, tyrosine, *m*- and *p*-aminobenzoic acids and Na salts of glycine and α-alanine. The elec. cond. of *m*- and *p*-aminobenzoic acids was approx. 100–1000 times as high as that of α-amino acids, which was explained by transformation of α-amino acids in aq. soln. almost completely into dipolar form. For calcg. approx. K_a for α-amino acids and K_b for aminobenzoic acids it is recommended that the elec. cond. of the acids themselves be measured without measuring that of their salts. The data are tabulated and plotted. A. A. Podgorny

BELYAYEV, I.N.; LE T'YUN

System $GeCl_4$ - CsCl - H_2O at 25°. Zhur. neorg. khim. 10 no.5:1229-1232 My '65. (MIRA 18:6)

L 2287-66

ACCESSION NR: AP5021273

2

$2PbHfO_3 \cdot PbWO_4$ is formed. The compounds observed have pyrochlore-type crystal lattices, and the unit cells are expressed by the formulas $Pb_2(Sn_{1.5}W_{0.5})O_{6.5}$ and $Pb_2(Hf_{1.33}W_{0.66})O_{6.6}$ with constant a equal to 10.52 and 10.66 A, respectively. In the "$PbSnO_3$" - $PbMoO_4$ system at 600-900C and compacting pressure (preceding the firing) of 50 kg/cm^2 and in the $PbHfO_3$ - $PbMoO_4$ system at 800C and a compacting pressure of 100 kg/cm^2, no chemical reactions are observed. Orig. art. has: 1 figure and 3 tables.

ASSOCIATION: Rostovskiy-na-Donu gosudarstvennyy universitet (Rostov-on-Don State University)

SUBMITTED: 24Mar65 ENCL: 00 SUB CODE: IC, GC

NO REF SOV: 009 OTHER: 003

Card 2/2

L 2287-66 EWP(e)/EWT(m)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) IJP(c) JD/JG

ACCESSION NR: AP5022273 UR/0363/65/001/007/1184/1188

541.123.2

AUTHOR: Belyayev, I. N.; Aver'yanova, L. N.; Belyayeva, I. I.

TITLE: X-ray phase study of the systems "$PbSnO_3$" - $PbWO_4$, "$PbSnO_3$" - $PbMoO_4$, $PbHfO_3$ - $PbWO_4$, and $PbHfO_3$ - $PbMoO_4$.

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 7, 1965, 1184-1188.

TOPIC TAGS: lead compound, tin compound, tungsten compound, molybdenum compound, hafnium compound, ferroelectric material

ABSTRACT: The paper continues a study of the nature of solid-state reactions in systems involving ferroelectrics and antiferroelectrics. The pressed and sintered samples were analyzed by X-ray powder techniques. It was found that in the "$PbSnO_3$" - $PbWO_4$ system (where "$PbSnO_3$" is a mixture of 50 mole % PbO and 50 mole % SnO_2), the compound $3PbSnO_3 \cdot PbWO_4$ is formed at 700-900C. At 900C, the compound begins to decompose into the original components. In the $PbHfO_3$ - $PbWO_4$ system, if the pressing preceding the sintering is carried out under a pressure of no less than 100 kg/cm^2 and the firing temperature is 800-1000C, the compound

Card 1/2

BELYAYEV, I.N.; MEDVEDEVA, L.I.; FESENKO, Ye.G.; KURPIYANOV, M.F.

Preparation and X-ray structural study of molybdates of A_2BMoO_6-type complex composition. Izv. AN SSSR. Neorg. mat. 1 no.6:924-927 Je '65. (MIRA 18:8)

1. Rostovskiy gosudarstvennyy universitet.

BELYAYEV, I.N.; AVER'YANOVA, L.N.; BELYAYEVA, I.I.

X-ray and dilatometric studies of the systems $PbZrO_3$ - $PbWO_4(MoO_4)$. Izv. AN SSSR. Neorg. mat. 1 no.3:392-394 Mr '65. (MIRA 18:6)

1. Rostovskiy gosudarstvennyy universitet.

BELYAYEV, I.

CONFIDENTIAL

Source is report of E. A. Frieman and M. B. Gottlieb, on their visit to Moscow for the 2nd All-Union Gaseous Electronics Conference and a tour of the Institute for Atomic Energy, Moscow, October 2-12, 1958.

The following are on the staff of the Institute for Atomic Energy, working on Controlled Thermonuclear Reactions:

BELYAYEV, I. -- (I.N.Golovin Group).

SO: Project Matterhorn, AEC Contract, Princeton University, undated, Unclassified.

Preparing barium...

Armco iron crucible which was suspended at the top of the large crucible and submerged in the molten K_2CO_3 - Na_2CO_3 mixture. The large crucible was hermetically sealed and placed in a TG-1 (TG-1) furnace which was kept at a constant temperature (800, 850 or 900° ± 10°C) for 3 - 7 days. The best results were obtained after 7 days at 900°C. $BaTiO_3$ monocrystals produced in this way were up to 10 x 2 mm in size, light yellow in color, and with a Curie temperature of 110 - 115°C. Most of the monocrystals were of monodomain type. Their appearance and properties were described by I. N. Belyayev, N. S. Novosil'tsev, A. L. Khodakov and Ye. G. Fesenko (Ref. 4: Zhur. eksp. teor. fiz., 23, 211, 1952). There are 1 figure, 1 table and 13 references: 7 Soviet-bloc and 6 non-Soviet-bloc. The references to the English-language publications read as follows: I. R. Remeika, J. Amer. Chem. Soc., 76, 3, 940, 1954; M. G. Harwood, H. A. Klassen, Nature, 165, no. 4185, 73, 1950.

Card 2/2

D547

S/564/61/003/000/023/029
D207/D304

15.2410

AUTHOR: Belyayev, I. N.

TITLE: Preparing barium titanate monocrystals under near-isothermal conditions

SOURCE: Akademiya nauk SSSR. Institut kristallografii. Rost kristallov, v. 3, 1961, 447-450

TEXT: The author describes the preparation of $BaTiO_3$ monocrystals by allowing $BaCO_3$ and TiO_2—which were not in immediate contact—to diffuse across a molten salt. After diffusion, the two components reacted, yielding $BaTiO_3$, which grew in monocrystalline form. The molten salt was a mixture of 40 mol.% K_2CO_3 + 60 mol.% Na_2CO_3 placed in a large (180 mm high, 70 mm diameter) Armco iron crucible. Molten TiO_2 was at the bottom of this crucible. $BaCO_3$ powder was placed in another (small)

Card 1/2

BELYAYEV, I. M., BESSARABOV, L. F., (Candidates of Veterinary Sciences, Moscow Veterinary Academy).

"Method of Phase Contrast Microscopy in Making a Study of Formed Blood Elements." Veterinariya vol. 38., no. 11., November 1961., p. 77

FILATOV, Pavel Vasil'yevich, doktor veter. nauk; SUDAKOV, Nikolay Aleksandrovich, doktor veter. nauk; BELYAYEV, Ivan Mikhaylovich, kand. veter. nauk; ZELEPUKIN, V.S., red.

[Practical exercises in clinical diagnosis by X-raying] Prakticheskie zaniatiia po klinicheskoi diagnostike s rentgenologiei. Moskva, Izd-vo "Kolos," 1964. 199 p. (MIRA 17:5)

BELYAYEV, I.M.; MUSHNIKOVA, K.S.; MILOVIDOVA, N.D., red.; STREL'TSOVA, N.P., red.; KANTOROVICH, A.P., tekhn. red.

[Pests and diseases of grain crops] Vrediteli i bolezni zernovykh kul'tur. Izd.2. n.p. Sel'khozizdat, 1963. 34 p. (MIRA 16:10)

(Grain--Diseases and pests)

BELYAYEV, I.M., doktor sel'skokhoz. nauk

Basic measures for controlling pests of headed grain. Zashch. rast. ot vred. i bol. 7 no.9:32-34 S '62. (MIRA 16:8)

1. Nauchno-issledovatel'skiy institut sel'skogo khozyaystva tsentral'nykh rayonov nechernozemnoy zony.
(Grain--Diseases and pests)
(Insects, Injurious and beneficial--Control)

BELYAYEV, I.M., doktor sel'skokhoz.nauk

Protecting corn fields. Zashch. rast. ot vred. i bol. 8 no.5: 31-32 My '63. (MIRA 16:9)
(Corn (Maize)—Diseases and pests)

BESSARABOV, B.F., kand. veterin. nauk; BELYAYEV, I.M., kand. veterin. nauk

Method of phase-contrast microscopy in studying the formed elements of blood. Veterinariia 38 no.11:77-79 N '61.
(MIRA 18:1)

1. Moskovskaya veterinarnaya akademiya.

BELYAYEV, I. M.

Basic measures against grain pests in the non-Chernozem zone. Zashch. rast. ot vred. i bol. 5 no.6:22-24 Je '60. (MIRA 16:1)

1. Zaveduyushchiy laboratoriyey zashchity rasteniy Nauchno-issledovatel'skogo instituta sel'skogo khozyaystva Nechernozemnoy polosy, Nemchinovka, Moskovskoy obl.

(Grain—Diseases and pests)

BELYAYEV, Il'ya Mikhaylovich

[Pests of grain crops in non-Chernozem areas] Vrediteli zernovykh kul'tur nechernozemnoi polosy. Izd.2., dop. Moskva, Gos.izd-vo, 1959. 173 p. (MIRA 13:6)
(Grain--Diseases and pests)

BELYAYEV, I. M.: Doc Agric Sci (diss) -- "Principles of a system of measures against the main pests of grain crops in the non-chernozem band". Moscow, 1958. 36 pp (Moscow Order of Lenin Agric Acad im K. A. Timiryazev), 110 copies (KL, No 6, 1959, 137)

USSR / General and Special Zoology. Insects. Harmful Insects and Arachnids. Pests of Grain Crops. P

Abs Jour: Ref Zhur-Biol., No 14, 1958, 64011.

Abstract: sprayed by a 2.4% (depending on the amount isomers) suspension of BHC with a 0.3% solution of 2.4 DU (300 litres/ha), the damage to stems by the SF decreased from 19-45 to 6-12%, while spraying with a 0.3% chlorothane or chlorophenol emulsion decreased the SF numbers and the damage by the ribbon-footed cornfly 2/3 times. -- A. P. Adrianov.

Card 3/3

USSR / General and Special Zoology. Insects. Harmful Insects and Arachnids. Pests of Grain Crops. P

Abs Jour: Ref Zhur-Biol., No 14, 1958, 64011.

Abstract: increased the crop by 20%, while the dusting of corn in the phase of the second leaf (30 kg/ha) decreased the damage by the SF from 37 to 11%. Dusting of spring and winter wheat, barley, oats and rye in the phase of the second leaf and again in the phase of the third and fourth leaves with a preparation, containing 2% of BHC and 2% para-dichlorobenzene (PDB), 30 kg/ha, decreased the damage by the SF from 18-25 to 5-8%, by the ribbon-footed cornfly twice and increased the amount of ears and the crop by 22-25%. The damage to corn by the SF was: when dusting in the phase of the second leaf by the preparation of BHC and PDB, 20%; when the seeds were treated with mercuran, 9%; in the control 57%. When spring wheat was

Card 2/3

USSR / General and Special Zoology. Insects. Harmful Insects and Arachnids. Pests of Grain Crops. P

Abs Jour: Ref Zhur-Biol., No 14, 1958, 64011.

Author : Belyayev, I. M.
Inst : Scientific Research Agricultural Institute of the Central Regions of the Non-chernozem Belt.
Title : The Effectiveness of Dusting and Spraying of Grain Crops Plantings in the Control of the Swedish Fly and Ribbon-footed Cornfly.

Orig Pub: Byul. nauchno-tekh. inform. n.i. in-ta zonlod. tsentr. rayonov nechernozem. polosy, 1957, 2, 32-34.

Abstract: Dusting of spring wheat once or twice with a 12% BHC (12-15 kg/ha) decreased the damage by the Swedish fly (SF) from 53% to 20%, by the ribbon-footed cornfly from 26-50% to 4-13% and

Card 1/3

BELYAYEV, I. M.

USSR/General and Special Zoology. Insects. Injurious Insects and Ticks. Pests of Cereal Crops P

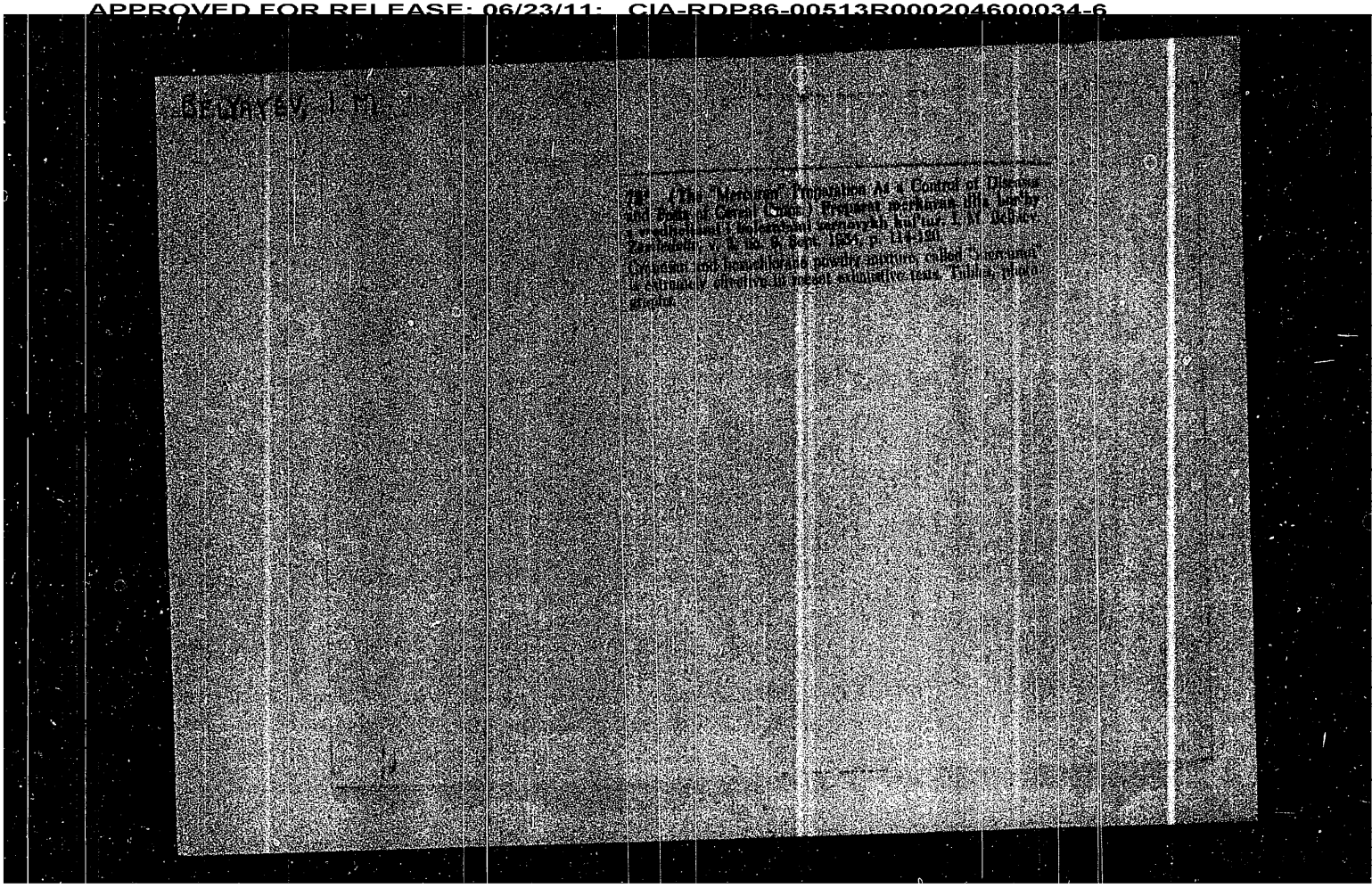
Abs Jour : Ref Zhur - Biol., No 11, 1958, No 49588

Author : Belyayev I.M.
Inst : Institute of Agriculture of the Non-Chernozem Belt
Title : Protection of Corn from Pests in the Non-Chernozem Belt.

Orig Pub : Zashchita rast. ot vredit. i bolezney, 1957, No 2, 29-31

Abstract : To control wireworms, the institute of Agriculture of the Non-Chernozem Belt recommends the planting of corn at optimal periods on well-cultivated and fertilized plots and treatment of seeds with Mercuran (0.2 and 0.3 kg/c.), or first with Granozan (0.1 kg/c.) and then with 12% hexachlorocyclohexane (HCCH) dust (1 and 2 kg/c) according to the degree of infection with wireworms upto 5 and 20 specimens per 1 m^2. Agrotechnical

Card : 1/2



BELYAEV, I.M.

Vrediteli zernovykh kul'tur nechernozemnoi polosy (Grain crop pests in the nonchernozem belt). Moskva, Sel'khozgiz, 1954. 126 p. (V pomoshch'agronomu na proizvodstve)

SO: Monthly List of Russian Accessions, Vol 7, No 9, Dec 1954

BELYAYEV, I. M.

BW (1)

B. T. R.
V. 3 No. 3
Mar. 1954
Agriculture

2846* Control of Grain Crop Pests in the Non-Black Earth Strip. (Russian.) I. M. Beliaev. *Dostizhenila Nauki i Peredovogo Opyta b Sel'skom Khoziaistve*, 1953, no. 11, Nov., p. 43-46.

Applications of hexachlorane for insect control and herbicides for weed control are described. Tables.

1. BELYAYEV, I. M.

2. USSR (600)

4. Agricultural Chemistry

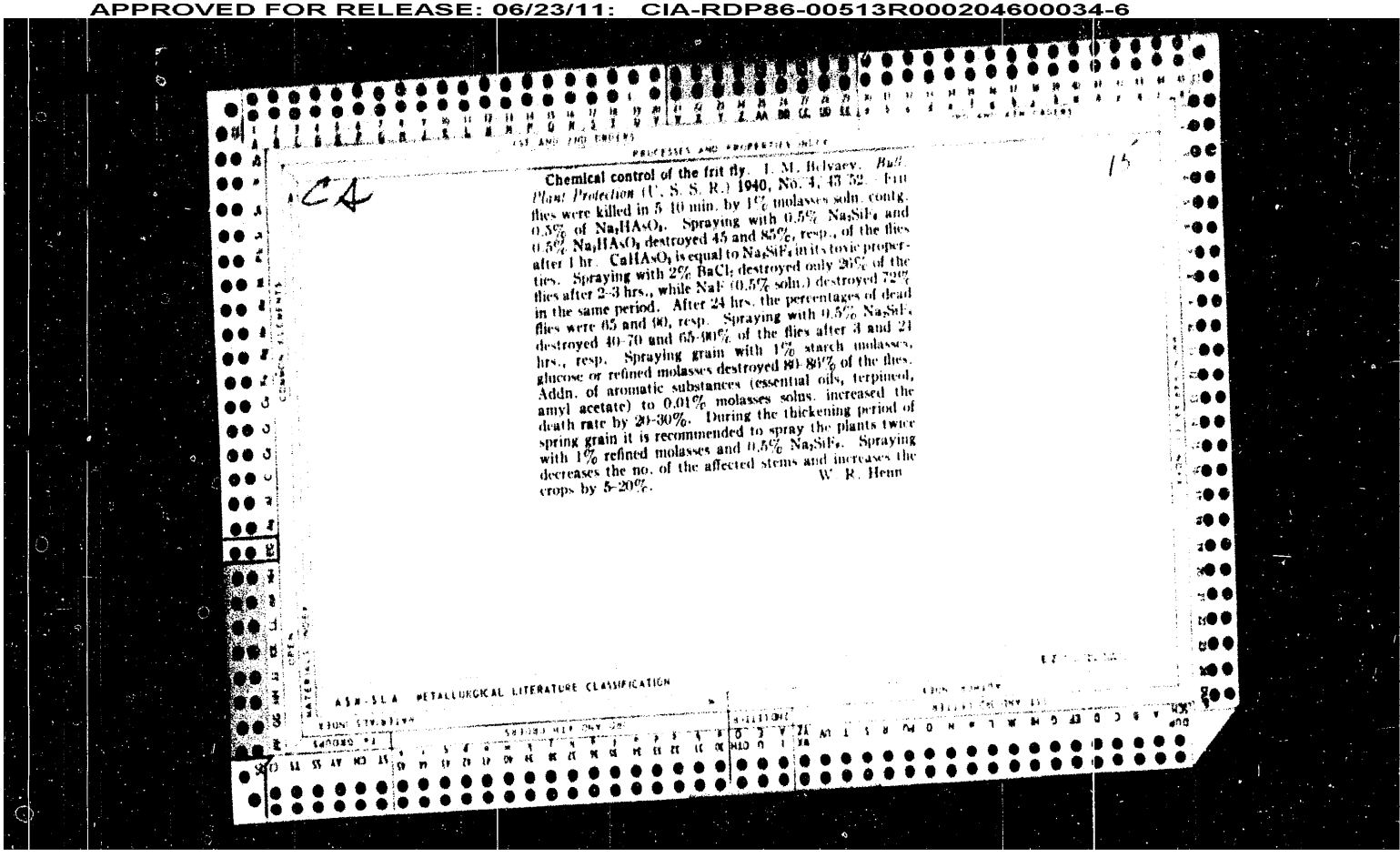
7. Over-all chemical method for controlling grain crop pests, diseases and weeds, Sel. i sem., 19, No. 11, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

BELYAYEV, I, M.

Belyayev, I. M. - "Agrotechnical measures for control of Chlorops pumilionis," Trudy Nauch.-issled. in-ta zernovogo khoz-va nechernozem. polosy SSSR, Issue 14, 1949, p. 97-110

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)



CA

15

Chemical control of the frit fly. I. M. Belyaev. *Bull. Plant Protection* (U. S. S. R.) 1940, No. 4, 43-52.—Frit flies were killed in 5-10 min. by 1% molasses soln. contg. 0.5% of Na_2HAsO_3. Spraying with 0.5% Na_2SiF_6 and 0.5% Na_2HAsO_3 destroyed 45 and 85%, resp., of the flies after 1 hr. $CaHAsO_3$ is equal to Na_2SiF_6 in its toxic properties. Spraying with 2% $BaCl_2$ destroyed only 20% of the flies after 2-3 hrs., while NaF (0.5% soln.) destroyed 72% in the same period. After 24 hrs. the percentages of dead flies were 65 and 90, resp. Spraying with 0.5% Na_2SiF_6 destroyed 40-70 and 65-90% of the flies after 3 and 24 hrs., resp. Spraying grain with 1% starch molasses, glucose or refined molasses destroyed 80-86% of the flies. Addn. of aromatic substances (essential oils, terpineol, amyl acetate) to 0.01% molasses solns. increased the death rate by 20-30%. During the thickening period of spring grain it is recommended to spray the plants twice with 1% refined molasses and 0.5% Na_2SiF_6. Spraying decreases the no. of the affected stems and increases the crops by 5-20%.

W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

BELYAYEV, I.M., doktor sel'skokhozyaystvennykh nauk

Great possibilities for increasing the yield of headed grain crops. Zashch. rast. ot vred. i bol. 7 no.1:22-24 '62. (MIRA 15:6)

1. Nauchno-issledovatel'skiy institut sel'skogo khozyaystva nechernozemnoy polosy.

(Grain)
(Agricultural chemicals)

KAPSON, Aron Borukhovich; BELYAYEV, I.M., redaktor; MAL'KOVA, N.V., tekhnicheskiy redaktor

[Planning operations at the road machinery station] Planirovanie raboty v mashinodorozhnoi stantsii. Moskva, Nauchno-tekhn. izd-vo avtotransp. lit-ry, 1956. 79 p. (MLRA 10:1)
(Road machinery)

ALEKSEYEV, N.A.; BELYAYEV, I.M.; KRAPIVIN, V.F.; MALINOVSKIY, I.I.

[Planning and calculating construction and repair work on local roads] Planirovanie i uchet stroitel'nykh i remontnykh rabot na mestnykh dorogakh. Moskva, Avtotransizdat, 1953. 250 p. (MLRA 7:5)
(Road construction) (Roads--Maintenance and repair)

Abs Jour : Ref Zhur - Biol., No 5, 1958, No 21714

noticeable azurophilic granulation or is weakly pronounced and granules are distinct. Reticulo-endothelial cells (0-0.3%) are rounded, of various size, with large loose nucleus and a narrow rim of cytoplasm (to times with small or large azurophilic granules). Mitoses are seldom found in the puncture (specimen).

Abs Jour : Ref Zhur - Biol., No 5, 1958, No 21714

with a pale violet protoplasm and dark violet granules, eosinophilic (2.8-3.6%) with the pale blue protoplasm containing small pink granules, and the pseudoeosinophilic ones (20-26%) whose blue or pink protoplasm contains rodlike red granules. The cells of the erythroid series are represented by proerythroblasts (4-6.2%) with homogeneous nuclei and 2-3 hardly noticeable small nucleoli, erythroblasts (14-18%) whose nuclei are more compact and contain no nucleoli and whose protoplasm is basophilic, and normoblasts (16.3-20%) with weakly oxiphilic protoplasm and compact nuclei with radially situated chromatin. Megakaryocytes (0.5-1.2%) are large cells with a large loose nucleus and azurophilic granulation in the cytoplasm. The Turk cells (0.5-1.2%) have different sizes and shapes; the protoplasm is distinctly basophilic and a small nucleus lies eccentrically. The Ferrata cells (0-0.3%) are large, frequently polygonal cells whose round, irregularly shaped and loose is eccentrically located and contains 2-3 nucleoli. Protoplasm is well pronounced and contains slightly

USSR/Blood and Hematopoietic Organs S-2

Abs Jour : Ref Zhur - Biol., No 5, 1958, No 21714

Author : Belyayev, I.M.
Inst : Not Given
Title : Morphology of Hen Bone Marrow

Orig Pub : Tr. Mosk. vet. akad., 1955, 13, 138-142

Abstract : A study was made of the bone marrow of the metatarsal bone in 87 clinically healthy hens. Differential count was arrived at by counting 1000 cells. A following morphology of bone marrow cells was established. Myeloblasts (0.8-2.9%) are large cells with a rounded nucleus with a delicate lacelike structure. Protoplasm is agranular. Promyelocytes (5.8-8.5%) have a more compact nucleus of irregular shape. The protoplasm which surrounds the nucleus as a broad rim contains unevenly distributed granules. Myelocytes contain large, round, oval or rodlike nuclei. According the characteristics of the protoplasm and the granules which are found in great numbers in it, the myelocytes may be divided into basophilic (1.9-2.6%)

Card : 1/3

BYELYAYEV, I. F.

"Clinical Hematological Indicators in Leukoses and Sarcomatosis of Chickens." Cand Vet Sci, Moscow, Veterinary Academy, Moscow, 1954. (RZhBiol, No 4, Feb 55)

SO: Sum. No; 631, 26 Aug 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

BELYAYEV, Ivan Kliment'yevich; PROTOPOPOV, N.N., dotsent, nauchnyy red.; USHAKOVA, L.A., red.; SUBBOTINA, G.M., tekhn.red.

[Socialist industrialization of Western Siberia] Sotsialisticheskaia industrializatsiia Zapadnoi Sibiri. Red.N.N.Protopopov. Novosibirsk, Novosibirskoe knizhnoe izd-vo, 1958. 252 p. (MIRA 12:9)

(Siberia, Western--Industries)

BELYAYEV, I.I., prof.; BLIOKH, S.S., kand. med. nauk; GABOVICH, R.D., prof.; GORBOV, V.A., dots.; ZHABOTINSKIY, V.M., prof.; ZASLAVSKAYA, R.M., kand. med. nauk; KIBAL'CHICH, I.A., kand. med. nauk; KROTKOV, F.G., prof.; MOGILEVSKIY, Ya.A., kand. med. nauk[deceased]; TRAKHTMAN, N.N., dots.; CHERKINSKIY, S.N., prof.; GOROMOSOV, M.S., doktor med. nauk, red.; RYAZANOV, V.A., prof., red.; BUSHTUYEVA, K.A., dots., red.; SELESKIRIDI, I.G., dots., red.; OSTROVERKHOV, G.Ye., prof., glav. red.; PETROVA, N.K., tekhn. red.

[Manual on communal hygiene]Rukovodstvo po kommunal'noi gigiene. Moskva, Medgiz. Vol.2. 1962. 763 p. (MIRA 15:12)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Krotkov). 2. Chlen-korrespondent Akademii meditsinskikh nauk SSSR (for Cherkinskiy, Ryazanov).
(SOIL DISINFECTION) (WATER SUPPLY)

BELYAYEV, I.I., prof.

A.N.Sysin in Nizhniy Novgorod. Gig. i san. 26 no.11:45-49 N '61.
(MIRA 14:11)

1. Iz Gor'kovskogo meditsinskogo instituta imeni S.M.Kirova.
(SYSIN, ALEKSEI NIKOLAEVICH, 1879-)

BELYAYEW, I.I., prof.

Water purification through 2-layer (anthracite-quartz) filters.
Gig. san. 26 no.8:100-102 Ag '61. (MIRA 15:4)

1. Iz Gor'kovskogo meditsinskogo instituta imeni S.M.Kirova.
(WATER--PURIFICATION) (FILTERS AND FILTRATION)

BELYAYEV, I.I., prof.; ZOLOTOV, P.A., dotsent

Concerning a review. Gig. i san. 26 no.8:96-98 Ag '61. (MIRA 15:4)

(PUBLIC HEALTH)

BELYAYEV, I.I., prof.

Hygienic aspects in preventing pathological conditions of the circulatory organs. Gig. i san. 26 no.4:71-76 Ap '61. (MIRA 15:5)

1. Iz Gor'kovskogo meditsinskogo instituta.
(CARDIOVASCULAR SYSTEM—DISEASES)

BELYAYEV, I.I., prof.

Problems solved and unsolved. Gig.i san. 25 no.7:108-109 Jl '60. (MIRA 14:5)

(GORKIY PROVINCE--PUBLIC HEALTH SOCIETIES)

BELYAYEV, I.I.

EXCERPTA MEDICA Sec 17 Vol 5/11 Public Health Nov 59

3695. A WATER CLARIFICATION METHOD WITH SUSPENDED SEDIMENTS (Russian text) - Belyaev I. I. - GIG. I SAN. 1959, 4 (7-11) Tables 2 Illus. 1

An efficient study of water clarification with suspended sediments made in 1957 at one of the water filtration plants in Gorky, proved to render a sufficiently high degree of purification. The best results were obtained during the period from April to October. A decrease in the amount of sediment in the incoming water and a fall in its temperature had an unfavourable effect on the degree of water purification. Sedimentation tanks with suspended filtrating material may be used successfully at waterworks provided with a two-stage water treatment system.

BELYAYEV, I. I., BLIOKH, S. S., GUS'KOVA, V. N.

"Hygienic evaluation of new methods of purifying drinking water."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, 1959.

BELYAYEV, I.I., prof.

Training of public health physicians under new conditions. Gig. i san. 23 no.11:50-52 N '58. (MIRA 12:8)

1. Iz Gor'kovskogo meditsinskogo instituta imeni S.M. Kirova.
(MEDICINE--STUDY AND TEACHING)

BELYAYEV, I.I., professor; BUDRIN, R.N., professor; YURASOVA, T.S., vrach; KOZLOVA, T.V., vrach; POPOV, V.S., vrach

Hygienic problems in the formation and utilization of Gorkii Reservoir. Gig. i san. 22 no.4:61-64 Ap '57. (MLRA 10:9)

1. Iz Gor'kovskogo meditsinskogo instituta imeni S.M.Kirova.
(WATER SUPPLY,
creation & utilization of watershed (Rus))

BELYAYEV, Igor' Ippolitovich, doktor med.nauk; GARANINA, L.F., red.; ZAKHAROV, K.A., tekhn.red.

[Personal hygiene] Lichnaia gigiena. Gor'kovskoe knizhnoe izd-vo, 1955. 49 p. (MIRA 12:3)

(HYGIENE)

BELYAYEV, I.I.

Effect of water contamination in a water supply system on acute intestinal diseases in the population. Gig. i san. no.11:46-47 N '54. (MLRA 7:12)

1. Iz Gor'kovskogo meditsinskogo instituta imeni S.M.Kirova
(GASTROINTESTINAL DISEASES, etiology and pathogenesis
water contamination in supply system)
(WATER SUPPLY
contamination causing gastrointestinal dis.)

1. BELYAYEV, I.I.; SHIFRIN, N.K.

2. USSR (600)

4. Cherkinskiy, S.N.

7. "Communal hygiene." S.N. Cherkinskiy, an article published in vol. 2 of the Great Soviet Encyclopedia, 2d ed., 1952, Reviewed by N.K. Shifrin, I.I. Beliaev. Gig. i san. no. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

1. BELYAYEV, I. I. MINEYEV. A, M.

2. USSR (600)

4. Gor'kiy-Public Health

7. Reorganization of activities of the sanitary-epidemiologic organization in Gor'kiy. i Sov.zdrav. 11 no D '52

9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

BELYAYEV, I. I.

62/49T61

USSR/Medicine - Hygiene and Sanitation
Medicine - Public Health

Jul 49

"Hygienic Requirements for a Sanitary Cleanup of Gor'kiy," I. I. Belyayev, Chair of Gen Hygiene, Gor'kiy Med Inst imeni S. M. Kirov, 1½ pp

"Gig i San" No 7

Elevated section of the city is cut by ravines which are used as dumps. Lower part on the Volga and Oka is frequently inundated. Only the new business section has been properly drained. Plans include proper garbage disposal, and improved drainage systems and stations. Prevention of soil contamination must also be studied.

62/49T61

PA 70T93

BELYAYEV, I. I.

USSR/Medicine - Water, Supply
Medicine - Water, Examination

May 1948

"A Case of the Practice of Sanitation Laboratory Control for the Quality of Tap Water," I. I. Belyayev, 1 p

"Gig i San" Vol XIII, No 5

Gives results of water tests on the Gor'kiy municipal water supply, 26 and 27 Aug 1944. Found source of contamination to be sunken barge (salt cargo), which met with disaster in the river above Gor'kiy.

70T93

BELYAYEV, I. I.

"A Century of the Gor'kiy (Municipal) Water Supply," Gaz i San., 13, No. 2, 1948.

BELYAYEV, I.I.

Introducing automatic control in the grinding of nepheline-limestone charge mixtures at the Volkhov Aluminum Plant. TSvet. met. 35 no.1:53-59 Ja '62. (MIRA 16:7)
(Volkhov--Aluminum industry) (Crushing machinery) (Automatic control)

BELYAYEV, I.I.

Automatic control system of the process of neutralizing solutions.
TSvet. met. 34 no.6:51-54 Je '61. (MIRA 14:6)

1. Volkhovskiy alyuminiyevyy zavod.
(Aluminum--Electrometallurgy)
(Automatic control)

An Automatic Dosing and Consumption-Measuring Device for Feeding Rotary Kilns with Slurry

automatic regulation with so called dynamic connections. The type EPID consumption dose-measuring device, with a rheostat pickup built in, has a secondary apparatus, acting as a pickup for regulated parameters of the system. The author concludes that: 1. The design of the consumption dose-measuring device has been accomplished. 2. A standard apparatus has been chosen for uninterrupted remote control and recording of the slurry consumption. 3. A new system of an automatic feeding regulation, of a rotary kiln, using the dose-measuring device has been accomplished. 4. The dose-measuring device may be used for a quantitative registration of slurry, and also in the systems of automatic regulation of feeding rotary kilns, and of dosing of the fluid components into the mills. There are 3 diagrams, 1 graph, and 1 table.

An Automatic Dosing and Consumption-Measuring Device for Feeding Rotary Kilns with Slurry

included into the scheme of the automatic regulation. A scheme of the receiver of the dosing and consumption-measuring device is shown in diagram 1 (Figure 1). The author quotes a short calculation of interdependence between the consumption of the slurry and the height of the flow level of the liquid mass, leading to the definition of the profile of the slurry's flow orifice. Graph 2 (Figure 2) illustrates the relation between the consumption and the height of the level of the liquid flow. Table 1 contains calculation data of the slurry dosing hopper. The latter consists of two cylindrical chambers - one receiving, and one pouring chamber, separated one from another by a baffle plate with a diaphragm, diagram 3 (Figure 3). This diagram also includes a general scheme of the feeding regulator, consisting of the electronic regulating apparatus ER-III-54, permitting a high quality

15(6) SOV/101-59-4-3/10

AUTHOR: Belyayev, I.I.

TITLE: An Automatic Dosing and Consumption-Measuring Device for Feeding Rotary Kilns with Slurry

PERIODICAL: Tsement, Nr 4, pp 8-13 (USSR)

ABSTRACT: The author states that volumetric measurement of slurry consumption has a practical significance for the cement industry. A dosing and consumption-measuring device has been designed and adapted at the Volkhovskiy aluminiyevyy zavod (Volkhov Aluminum Plant). The basic features of the device are to be: 1. It must be used as one of the methods of liquid consumption measurement; 2. Readings are to be independent of the specific weight of the slurry 3. Evenness in regulation of the slurry consumption 4. A remote control and summarizing of the slurry consumption by means of using common industrial secondary automatic apparatuses 5. Possibility of the use of the device

Card 1/3

BELYAYEV, I.I.

Automatic controllers of the density and volumetric consumption of the pulp. Biul. TSIIN tsvet.met. no.10:13-15 '58. (MIRA 11:9)
(Electric controllers) (Volkhov--Aluminum)

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136-12-11/18

Automatic Measuring and Regulating Device for the Density and Volumetric Flow of Nepheline-Lime Pulp and Slurry

proportional regulator (Figs.5, 6 and 7, respectively). Automation of the filter-thickeners at the **Volkhov Aluminum Plant** (Volkhovskiy alyuminiyevyy zavod) is said to have improved their operation and the density meters are being incorporated in designs by the Giproalyuminiy Institute. Examples of design calculations for the density and flow meters are given. Standard instruments suitable for incorporation in the density meter are discussed and named as follows: membrane differential manometers ДМ-1 and ДМ-6 with a secondary recording electronic instrument types ВЭП-2 or ЭПИД. There are 9 figures, 1 table and 3 Russian references.

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Card 2/2

Belyayev, I.I.

AUTHOR: Belyayev, I.I. 136-12-11/18

TITLE: Automatic Measuring and Regulating Device for the Density and Volumetric Flow of Nepheline-Lime Pulp and Slurry (Avtomaticheskiy izmeritel'-regulyator plotnosti i ob'yemnogo raskhoda nefelinovo-izvestkovoy pul'py i shlama)

PERIODICAL: **Tsvetnyye** Metally, 1957, Vol.30, No.12, pp. 51 - 59 (USSR).

ABSTRACT: In this article, the principles for the design of an instrument for the simultaneous measurement of pulp density and volumetric flow are set out and the design developed by the author and adopted at the **Volkhov Aluminum Plant is described.** No sets of instruments are in production for the automatic testing and regulation of the density of pulp in hydrochemical production processes, hence the need for the development of such instruments. By constantly passing water through the instrument (Fig.1) an accuracy of ± 1% is obtained in density measurements. Flows are measured on the basis of density measurement combined with a special diaphragm (Fig.2) and orifice (Fig.3). The article deals with applications of the instruments, such as for the automatic control of the operation of a filter-thickener and shows a circuit and layout diagram (Fig.4) and designs for the differential manometer, secondary electrical instrument and

Card 1/2

BELYAYEV, I.G., inzh.

New cement car. Stroi. i dor. mash. 6 no.9:22-23 S '61.
(MIRA 14:10)

(Tank cars)
(Cement--Transportation)

ANDRONOV, Viktor Petrovich; GOLOVIN, Vladimir Andreyevich;
BELYAYEV, I.F., kand. tekhn. nauk, retsenzent;
BAZILEVSKIY, V.M., kand. tekhn. nauk, retsenzent;
MARENKOV, Ye.A., kand. tekhn. nauk, red.

[Production of intermediate products of precious metals and alloys; a handbook] Proizvodstvo polufabrikatov iz dragotsennykh metallov i splavov; spravochnoe rukovodstvo. Moskva, Metallurgiia, 1965. 403 p.
(MIRA 18:6)

MOSHKOV, Aleksey Dmitriyevich, kand.tekhn.nauk; USPENSKIY, Yakov Viktorovich, kand.tekhn.nauk; BELYAYEV, I.F., kand.tekhn.nauk, red.; DUGINA, N.A., tekhn.red.

[Technology of production and use of porous bearings] Tekhnologiia proizvodstva i primenenie poristykh podshipnikov. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 81 p. (MIRA 12:5)

(Bearings (Machinery)) (Powder metallurgy)

Influence of Non-metallic Additions on the Strength of Platinum at High Temperatures.

sintered product was similar to ordinary platinum. The microstructures of the two materials are illustrated. The work showed that strength at 1 200 °C was improved by several-fold (e.g. by a factor of 4.3 with 0.05% BaO) by the addition of metal oxides, without loss of plasticity. The treated platinum has a finer block and grain structure than the untreated, which contributes together with the presence of dispersed oxide particles at the grain boundaries and in the grains, to the improvement in hot strength obtained by adding metal oxides. The X-ray tests showed that re-crystallisation temperature is also raised by metal-oxide addition.
There is one non-Slavic reference. There are 5 figures and 2 tables.

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Card 2/2

BELYAYEV, I. F.

AUTHOR: Belyayev, I.F. 136-6-12/26

TITLE: Influence of Non-metallic Additions on the Strength of Platinum at High Temperatures. (Vliyaniye nemetallicheskikh dobavok na prochnost' platiny pri vysokikh temperaturakh)

PERIODICAL: Tsvetnyye Metally, 1957, No.6, pp. 57-61 (USSR)

ABSTRACT: It is to be expected that the high-temperature mechanical properties of sintered platinum would be improved by the presence of small amounts of finely dispersed non-coagulating non-metallic particles. In the experiments described in this article, the non-metallic additions tested separately were the oxides of aluminium, beryllium, barium and zirconium in concentrations of 0.5, 0.1 and 0.05% each (not 0.5 for BaO). To prepare the test specimens ammonium chloroplatinate was moistened with a solution of the appropriate metal nitrate and calcined; the powder obtained was pressed at 1.5 tons/cm^2 and briquettes were sintered at 1500 °C from which 0.5 mm diameter wire was prepared. Tensile tests were carried out on the wire at 600 - 1 200 °C, and the tensile strengths and relative elongations obtained are plotted against temperature and also tabulated. X-ray structural methods were used to study re-crystallisation effects. In its corrosion resistance when boiled in hydrofluoric acid and in its stability on heating in air at 900 °C the treated

Card 1/2

Belyayev, I. F.

137-1957-12-23606 D

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 108 (USSR)

AUTHOR: Belyayev, I. F.

TITLE: The Technology for the Production of Metallo-Ceramic Platinum and the Effect of Non-Ferrous Additions on Its High-temperature Strength (Tekhnologiya polucheniya metallokeramicheskoy platiny i vliyaniye nemetallicheskhikh dobavok na yeye prochnost' pri vysokikh temperaturakh)

ABSTRACT: Bibliographic entry on the Author's dissertation for the degree of Candidate of Technical Sciences, presented to Ural'skiy politekhn. in-t. (Ural Polytechnic Institute). Sverdlovsk, 1957

ASSOCIATION: Ural'skiy politekhn. in-t. (Ural Polytechnic Institute), Sverdlovsk

1. Metallo ceramic platinum-Production

Card 1/1

Production Technology and Properties of Sintered Platinum.

which govern volume change during sintering. Increases in volume of high-pressure briquettes are due appreciably to gases. The recrystallization and other effects associated with cold plastic deformation accelerate sintering and give platinum with a stable density. Sintered platinum is stronger than ordinary and can be obtained in a purer form and with pores of controlled size. The greater strength of the sintered product is attributed to the presence of non-volatile salt particles.

2/2 There are 7 figures, 4 tables and 9 references, 8 of which are Slavic.

AVAILABLE: Library of Congress

BELYAYEV, I. F

AUTHOR: Belyayev, I. F. 136-3-10/25

TITLE: Production Technology and Properties of Sintered Platinum. (Tekhnologiya polucheniya metallokeramicheskoy platiny i yeye svoystva).

PERIODICAL: Tsvetnyye Metally, 1957, No.3, pp.51-58 (USSR)

ABSTRACT: Platinum produced by powder metallurgy has many advantages and uses and some experiments on its preparation and properties were therefore undertaken by the author. The specimens were prepared by grinding sponge (from technically pure ammonium chloroplatinate) to pass through a 20-mesh sieve, re-calcining, compressing at 0.25 to 20 tons/cm^2 into briquettes and sintering at 1200, 1500 and 1700 C, with density measurement every ten minutes. Plots of density against pressure for various times and against time with and without forging. Data showing the change in density when using vacuum sintering at 1700 C are tabulated as are the densities of ordinary (cast, forged, forged and annealed) and annealed sintered platinum and the tensile strengths and relative elongations for various annealing temperatures. Photomicrographs of briquette structures before and after sintering are shown. The results showed that there is a critical pressure for each temperature and time of sintering

1/2

BELYAYEV, I.F.; GUSHCHIN, S.G.; KAZANTSEV, P.D.

Streamless casting of thin plates of nonferrous metals. TSvet. met. 26 no.2:62-65 Mr-Ap '53. (MLRA 10:9)
(Founding)

VLASOV, Ivan Ivanovich, doktor tekhn. nauk, prof.; BELYAYEV, I.A., red.

[Contact network] Kontaktnaia set'. Izd. 3., dop. i isp. Moskva, Transport, 1964. 391 p. (MIRA 17:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta (for Vlasov).

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600034-6

BELYAYEV, I.A., inzh.; VETROV, N.I., inzh.; MARGOLIS, S.M., inzh.; BORZENKO, Ye.A., inzh., retsenzent; MIKHEYEV, V.P., kand. tekhn. nauk, retsenzent; GORCHAKOVA, O.D., inzh., red.; VOROB'YEVA, L.V., tekhn. red.

[Installation, operation and repair of overhead contact systems] Montazh, ekspluatatsiia i remont kontaktnoi seti. Moskva, "Transport," 1964. 294 p. (MIRA 17:3)